



ENERGY POLICY UPDATE

APRIL 6, 2015

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UPCOMING WEBINARS

[Western Governors' Drought Forum Webinar Series:](#)
Click [here](#) for more information or to register.

April 8: [One Size Doesn't Fit All: Why Variation in Hydrology and Legal Structures means that Drought Looks Different across the West](#)

[ENERGY STAR Webinars](#)



Like our Facebook page! Learn more about energy in Arizona, get daily posts on a variety of energy topics and use the Comment Section to tell us what you think or ask questions of our energy experts.

The Arizona Republic now has limited access. As such, links may or may not work.

ARIZONA-RELATED

[APS Power Grid Has Endured 9 Minor Acts of Sabotage in Recent Years](#)

[Arizona Republic, Mar. 24] More than 350 physical or cyber-attacks have been recorded in recent years on the nation's power grid, including nine acts of sabotage on equipment owned by Arizona Public Service Co., according to records obtained by *USA Today* and *The Arizona Republic*. The nine incidents recorded in reports to the U.S. Department of Energy involving APS equipment all took place in 2013-14, and officials at the utility said they were mostly in rural areas. None is thought to be any more serious than vandalism, said Ted Geisler, APS director of power operations. "In no case was there an impact to customers," Geisler said. "We don't feel in any case there was an impact to reliability." Salt River Project did not report any incidents. Utilities have been under increased scrutiny for their security measures in the wake of reports of cyberattacks on the grid, and a particularly troubling event in April 2013, when multiple people are thought to have shot up a San Jose, Calif. substation and caused significant damage, though not a blackout. The APS incidents were less serious, though two involved people shooting firearms at utility infrastructure, Geisler said.

[APS Seeks Hike of Solar Access Fee](#)

[Phoenix Business Journal, Apr. 2] Arizona Public Service Co. is seeking a change to its solar surcharge – currently averaging \$5 per month for residential customers – to step up to its previously requested \$21 per month average charge. The utility wants to trigger the fee with new solar customers only. All existing systems will be rate-protected. Jeffrey Guldner, APS senior vice president, public policy, said that the request is part of the 2013 decision handed down by the Arizona Corporation Commission. "At that time, the commission said that it wanted to see whether the rate would adversely impact installation of rooftop solar installations," he said. "In the APS territory, we have seen record numbers of installations after the 70-cent (per kilowatt) rate was approved." The commission, according to Guldner, wanted to use this as step to determine if the 70-cent rate was impacting the market. APS believes that is not the case, and is looking to hike the fee to its originally requested charge of \$3 per kilowatt. For a typical home, this translates to an average of \$21 per month. The controversy with the solar access charges is how new technologies are accommodated on a system that must maintain a perfect balance at all times. "Electrical storage for later use is an evolving technology," said John Hatfield, vice president of communications with APS. "We're in a situation where long-term sustainability of solar is a priority, along with how the costs and savings are fairly distributed." It's the distribution costs that generate the major controversy. The electrical grid system was designed to send power into homes and businesses. Rooftop and parking lot solar change the grid to a two-way street, and utilities have to change their technology to keep the system balanced.

[Arizona Group Wins \\$100K To Spread Water Awareness](#)

[Arizona Republic, Apr. 2] Water. It is the critical issue for Arizona's future. Residents have cut back on consumption. Cities have pushed conservation campaigns. State leaders have enacted laws to manage water use. But still a historic drought grips the state. And while Arizona is not facing an immediate crisis, more must be done to protect against future shortages. Against that backdrop, hundreds of thinkers came together to take the next step in facing Arizona's water challenge. Wednesday, one group walked away with a \$100,000 prize to launch a website hosting hundreds of video clips on water-related issues for viewers to create and share documentaries to spread awareness about water consciousness. It will launch in

U.S. Dept. of Energy Tribal
Renewable Energy Webinar
Series

U.S. Dept. of Energy Webinars

**2015
UPCOMING EVENTS**

Arizona Science &
Engineering Fair
Apr. 7-9 Phoenix, AZ

Tribal Economic Outlook
Conference
Apr. 9 Flagstaff, AZ

Solar Summit 2015
Apr. 14-16 Phoenix, AZ

Tribal Economic
Development in the
Southwest Conference
Apr. 16-17 Albuquerque,
NM

Tribes and the New Energy
Economy Conference
Apr. 22-23 Albuquerque,
NM

Utility Solar Conference
Apr. 27-29 San Diego, CA

CxENERGY 2015
Conference & Expo
Apr. 27-30 Las Vegas, NV

16th Peak Load
Management Alliance Spring
Conference
Apr. 28-29 Tucson, AZ

Alternative Clean
Transportation (ACT) Expo
May 4-7 Dallas, TX

NARUC Utility Rate School -
Western
May 11-15 San Diego, CA

2015 Energy Symposium
May 12-14 Monterey, CA

NASEO 2015 West Regional
Meeting
May 14-15 Portland, OR

Solar Power Generation Mexico
May 19-20

January. The group, Beyond the Mirage, is comprised of videographers and other media professionals, including a video coordinator at the University of Arizona and an executive producer with Arizona Public Media. The initiative was created to bring together innovative people from all professional backgrounds to flesh out solutions to problems gripping Arizona. Republic Media, the Arizona Community Foundation and the Morrison Institute for Public Policy presented the award. A panel of judges selected the winning team Wednesday after reviewing five finalists' proposals at the Phoenix Museum of Art.

Arizona Drought: Not Dire, But Water Planning Continues

Could Arizona see water use restrictions, similar to California's new measures?

[Arizona Republic, Apr. 2] Despite low levels at Lake Mead and the Colorado River, the impact of the drought in Arizona is not as dire as California. Kathleen Ferris, Arizona Municipal Water Users Association policy advisor and senior fellow for the Morrison Institute, said Arizona water managers are concerned about the drought, but have planned for shortages for decades. "There are areas of the state that are in worse shape, primarily because they rely on groundwater," Ferris said. "Competition for that supply in certain areas is increasing while the drought is lessening recharge to groundwater supplies." Drought-ravaged California took drastic steps Wednesday to preserve what water it still has by ordering historic statewide measures that slash use for highway medians and golf courses and replace millions of acres of lawn with drought-resistant landscaping. While both California and Arizona are impacted by the drought, the states do not have the same water supply situation. According to Ferris, California's water shortage problem stems from lack of snow in northern California. Arizona does not get water from those watersheds. "It's difficult to compare Arizona to California because, while the drought is affecting both states, we do not have the same water supply situation." "Both states do get water from the Colorado River, but have not yet experienced reductions of those supplies," Ferris said. If the Secretary of the Interior declares a shortage of water at the Colorado River as early as 2017, Arizona cities and tribes would not see a reduction, but Ferris said state agricultural uses would be reduced. Currently, Arizona cities are working with the Central Arizona Project and the Salt River Project to make water supplies resilient. According to Ferris, cities have stored reclaimed water and excess water underground for the past two decades.

Legislature Oks Bill To Ban Cities from Banning Plastic Bags

[Associated Press, Mar. 2] PHOENIX — The Legislature has approved a bill preventing cities and towns from banning plastic grocery bags or disposable containers. Major cities such as Chicago have adopted measures to limit the use of plastic bags in recent years. Conservationists say the bags litter the oceans and increase greenhouse gas emissions. Senate Bill 1241 by Republican Rep. Warren Petersen of Gilbert would ban counties, cities and towns from banning or charging fees for returning containers such as plastic bags or Styrofoam boxes. It also blocks cities and towns from requiring business owners from measuring or reporting energy usage.

Phoenix-Area Gas Stations Getting Slimmer Pump Nozzles

[Arizona Republic, Apr. 6] If you've ever filled your gas tank somewhere like Flagstaff and envied the simple gas-pump nozzle, good news. You'll be seeing more of those close to home. The large rubber rings used on metro Phoenix gas pumps are going away. The "vapor recovery" nozzles have been used in the region since the early 1990s to reduce the air pollution caused when fuel vapors escape from the pumps and contribute to smog. They use little vacuums to capture fuel vapors and send them to the station's underground storage tank. "Self-serve at the gas station may never be the same," *The Arizona Republic* reported as the devices came into widespread use in 1993. Many gas stations opposed their implementation, some arguing elderly people could not pump gas properly with them. But the air isn't expected to get dirtier as they are phased out, according to the Maricopa Association of Governments. That's because nearly all vehicles since 2006 have been equipped with their own vapor-recovery systems. The recovery systems on cars work against those on pumps. So MAG asked the Environmental Protection Agency if it could remove the requirement in Maricopa County and part of Pinal County. The metro Phoenix region was the only area in the state using the devices because it was the only place in the state with air dirty enough to need such an air-quality plan.

Project Aims To Strengthen Water, Power Systems in Southwest

[ASU News, Mar. 24] Climate forecasts for coming decades predict conditions that could put a severe strain on critical infrastructure systems – particularly in the southwestern United States.

World Trade Center, Mexico

[Better Buildings Summit](#)
May 27-29 Washington, DC

[Energy Efficiency Finance Forum](#)
May 31-Jun. 2 San Francisco, CA

[Industrial Energy Tech. Conference 2015](#)
Jun. 2-5 New Orleans, LA

[33rd West Coast Energy Mgmt. Congress](#)
Jun. 3-4 Long Beach, CA

[National Geothermal Summit](#)
Jun. 3-4, Reno, NV

[14th Annual Small Business Forum & Expo](#)
Jun. 16-18 Phoenix, AZ

[ASHRAE Annual Conference](#)
Jun. 27-Jul.1 Atlanta, GA

[ACEEE Summer Study on Energy Efficiency in Industry](#)
Aug. 4-6 Buffalo, NY

[Energy Efficiency Exchange: Federal Training & Knowledge](#)
Aug. 11-13 Phoenix, AZ

[Solar Power Int'l. 2015](#)
Sep. 14-17 Anaheim, CA

[2015 North American NGV Conference & Expo](#)
Sep. 15-17 Denver, CO

[ACEEE National Conference on Energy Efficiency as a Resource](#)
Sep. 20-22 Little Rock, AR

[World Energy Engineering Congress \(WEEC\)](#)
Sep. 30-Oct. 2 2015
Orlando, FL

[Greenbuild Int'l. Conference & Expo](#)
Nov. 18-20 Washington, DC

[Renewable Energy World Conference & Expo](#)
Dec. 8-10 Las Vegas, NV

[ASU Sustainability Series Events](#)

Arizona State University engineer Mikhail Chester and colleague Thomas Seager are leading a project to provide a guide – especially for urban areas – to begin boosting the resilience of infrastructure systems against potential threats posed by significant changes in climatic conditions. "The Southwest is going to be hotter and water flows will be different, with likely more intense weather events and more forest fires," said Chester. "All of this is going to have impacts on our water and electricity systems. At the same time, demand for power and water will be increasing."

[Senate Oks Penny-Per-Gallon Tax on Gasoline](#)

[Arizona Republic, Apr. 1] A bill that would continue a penny-per-gallon tax on gasoline for eight years appears on track to passage in the Legislature. The Senate on Tuesday gave preliminary approval to House Bill 2636. The lengthy bill would revive a program that pays clean-up costs for leaking underground gasoline-storage tanks and extends the tax to provide the money for it.

[Solar Water-Heating Industry Cools Off](#)

[Arizona Republic, Apr. 3] Arizona utilities have been battling with rooftop solar-electric companies over rates, and the solar water-heating industry is suffering serious collateral damage. Solar electric systems, or photovoltaic solar panels, generate electricity for homeowners. Solar water heaters use the sun's heat to warm water, saving the electricity or natural gas that otherwise would be used for hot showers and washing laundry and dishes. The state's three largest utilities — Arizona Public Service Co., Salt River Project and Tucson Electric Power — have all targeted solar electric for higher rates, but their proposals don't affect solar water heating. In fact, the electric companies, as well as Southwest Gas, continue to offer large rebates for customers who replace electric or gas water heaters with a solar water heater, something they stopped doing for solar-electric systems. Utilities across the country are targeting solar electric for higher fees, including Salt River Project, which added fees that could average \$50 a month for new solar-electric customers. APS has proposed raising solar-electric monthly fees to \$21. "We have so much negative talk about solar and the fear of a \$50-a-month surcharge in SRP and what is coming in APS, that it has really taken a toll on us," said Jim Combs, who runs Conservative Energy Systems in Mesa with his brother.

[Study Takes Aim at Mitigating Impact of Population Growth](#)

[ASU News, Mar. 27] As more people move to different regions of the country, it will require planners to use as many tools as they can to develop urban areas that satisfy population demands without over-burdening the environment. A new study from Arizona State University details some of the dynamics at play as one region of the country, the Central Valley of California, braces for substantial population growth and all it entails. The study, based on computer simulations using the ASU Advanced Computing Center, of rural to urban land conversion shows that as areas of California grow and develop, the resulting built environment could generate additional heat (called the urban heat island). But urban heat island can be mitigated using new technologies and the latest in sustainable design techniques, said Matei Georgescu, the author of "Challenges associated with adaptation to future urban expansion," which appears in the April 1 issue of the Journal of Climate. Finding the right combinations of technologies and techniques will be key.

[TEP Proposes Change in Payments for New Solar Customers](#)

[Arizona Republic, Mar. 30] Tucson Electric Power last week asked utility regulators to alter the way solar customers are paid for the excess power they send to the grid. The filing comes on the heels of [Salt River Project's recent vote to raise fees on solar customers](#) an average of about \$50 a month, mostly through a new demand charge based on the highest peak usage during a month. And TEP's filing comes ahead of an anticipated filing from Arizona Public Service Co., which imposed fees of about \$5 a month on new solar customers after a 2013 vote, which the utility considered inadequate. Like SRP and APS, the Tucson utility is concerned that customers who are paid full retail credit for their excess solar electricity most of the year are not paying for all of the services they receive from the power grid. TEP proposes that anyone applying to interconnect solar panels in the utility territory after June 1 would be affected by the new rates, which would result in a \$22-a-month reduction in the money they save with solar. TEP said in its announcement that customers installing a standard 6-kilowatt array would still save more than \$80 a month on average.

ALTERNATIVE ENERGY & EFFICIENCY

[A Little Wastewater Change Produces a Lot of Savings](#)

Tennessee Partnership Wants to be Role Model

[Sustainable City Network, Mar. 25] Communities frequently begin energy efficiency projects with lighting or mechanical system upgrades in public buildings, or by looking at the fuel efficiency of their vehicles. However, one of the largest energy consuming operations in most cities is often a missed opportunity: Drinking water and wastewater treatment systems. Typically these systems account for 30-40 percent of a city's total energy demand. A unique partnership led by the Tennessee Department of Environment and Conservation and the U.S. Environmental Protection Agency is proving that low-cost changes to water and wastewater treatment plants can have big energy and cost savings. The program, known as the [Tennessee Water and Wastewater Energy Efficiency Partnership](#), was formed in 2011 as a collaborative effort between local utility districts, the [U.S. EPA Region 4](#), the [Tennessee Department of Environment and Conservation](#), the [Tennessee Valley Authority](#), the [University of Memphis](#) and the [University of Tennessee's Municipal Technical Advisory Service](#). This first statewide effort of its kind in the Southeast has drawn 16 communities to participate so far in a series of workshops and facility energy assessments. Each utility identifies low- or no-cost operational changes and earmarks larger energy efficiency investments that are incorporated when planned capital improvements occur. Seven participating utilities in the first round completed their improvement projects in 2011. Another eight utility districts and one correctional facility participated in the recently completed second round. The focus of the program is to determine how to best reduce energy usage at plants without the financial burden of expensive capital projects, with many participants seeing almost immediate benefits.

[Biogas Production - Managing Risks to Reap Rewards](#)

[Energybiz.com, Apr. 2] With interest in clean, renewable energy on the rise, the biogas market is poised for a period of strong growth in the coming years. According to a 2012 Pike Research report, global revenue is projected to double from \$17.2 billion in 2011 to \$33.1 billion by 2022. But as new production comes on line, owners and operators should take into consideration not just the opportunity, but the risks as well. Biogas is produced by anaerobic digestion, or the decomposition of organic waste in an oxygen-starved environment. It is typically composed of about 50 percent methane and must be upgraded or purified for transportation fuel applications. The process begins in an anaerobic digester, which is a controlled environment where bacteria work to break down the organic waste (also called feedstock), and turn it into biogas and an organic fertilizer byproduct. Biogas recovery systems, meanwhile, help to reduce methane emissions by capturing the methane that otherwise would have been released into the atmosphere and converting it into energy. Biogas facilities, however, present a number of potential risks for property damage as well as risks to the health and safety of workers and visitors. In 2012, for instance, a digester used to produce biogas at an Oregon dairy farm caught fire, resulting in an estimated \$250,000 in damage. By taking steps to properly construct and maintain biogas facilities, owners and operators can not only increase the reliability of the facility, they can also greatly reduce the risk of loss and injury.

[Odessa Named as Nation's Top Small City for Energy Efficient Buildings](#)

[Sustainable City Network, Mar. 30] Dallas, TX – The [U.S. Environmental Protection Agency](#) has announced Odessa, Texas, as the nation's leader among smaller cities for Energy Star certified buildings. Odessa boasts 31 buildings with the certification, all schools and school administration offices, totaling 3.1 million sq. ft. The energy savings from these buildings total \$2.4 million. This represents the equivalent of the annual electricity use of 1,800 homes. "Energy Star certified buildings are leading the way by advancing energy efficiency and making cost-saving improvements," said EPA Regional Administrator Ron Curry. "Odessa's schools are taking advantage of these benefits, and giving students a real-life lesson in sustainability." More than 25,000 buildings across America have earned EPA's Energy Star certification since 1999. The buildings have saved nearly \$3.4 billion on utility bills and prevented greenhouse gas emissions equal to the emissions from the annual electricity use of nearly 2.4 million homes.

[UPS To Build 15 CNG Stations To Support Additional 1,400 NGVs](#)

[NGV America News, Apr. 1] UPS announced plans to build 15 CNG fueling stations to support the purchase and planned deployment of 1,400 new CNG vehicles over the next year. Twelve of the CNG stations will be in new natural gas vehicle deployment areas, and three will replace existing CNG stations with larger, higher capacity equipment. The purchase represents a nearly 30 percent increase to UPS's current alternative fuel and advanced technology fleet of 5,088 vehicles worldwide. The CNG fueling stations and vehicle purchases are part of UPS's

ongoing commitment to diversify its fuel sources, implement a fleet infrastructure that can utilize lower carbon intensity fuel sources and increase experience using alternative fuels in freight transport applications.

[Waiting on the Elio, a Three-Wheeled Dream Car of the Future](#)

[New York Times, Apr. 3] Sean Donahue, a 37-year-old marketing director at a branding firm near San Diego, attended the [Consumer Electronics Show](#) in Las Vegas, where, amid virtual reality goggles and 4K televisions, he saw a design that struck him as truly futuristic. "It looked like something out of the movie 'Gattaca,'" Mr. Donahue said. "As a nerdy tech guy, I was enthralled with it." The invention was a prototype of a two-seat three-wheeled car built by Elio Motors, a Phoenix-based start-up founded by Paul Elio in 2008 with the mission to create an inexpensive, American-made, fuel-efficient vehicle. The \$6,800 Elio uses the relatively ancient technology of a gas-powered engine. What makes the car seem advanced is the slender, rocketlike body made possible by its tandem seating design. Aerodynamically curved, it can travel 84 highway miles on a gallon of gas, according to its maker. Perhaps in a gambling mood, given that he was in Las Vegas, Mr. Donahue plunked down \$500 to get his name on the Elio waiting list. That list now numbers some 40,000 people, said Jerome Vassallo, vice president for sales at Elio Motors. It is likely to grow when the Creamsicle-orange prototype appears at the [New York International Auto Show](#), which runs through April 12 at the Jacob K. Javits Convention Center in Manhattan. The first Elio was scheduled to roll off the line in 2014, but difficulties raising capital and securing the former General Motors plant in Shreveport, La., which the company plans to use as a production facility, have caused delays. The debut is now planned for 2016.

[Will Big Utilities Kill SolarCity?](#)

[Investopedia, Mar. 31] Across the nation, SolarCity (NASDAQ: SCTY) has made residential solar power systems more popular than ever, with its efforts to bridge the gap between cash-strapped homeowners and the ability to afford expensive outright purchases of solar panels, inverters, and other necessary equipment. With its business model, which encourages homeowners to use alternatives to outright purchases to make solar power systems more affordable, SolarCity has increased adoption rates dramatically. Indeed, in some cases, SolarCity has had a big enough impact on the market that traditional electric utilities have felt the effects on their businesses, and now, some utilities are fighting back. Nervous SolarCity investors want to know if they should worry about whether big utilities' efforts will hurt the solar giant's growth potential. Why utilities are fighting SolarCity - The concern that utilities have about solar power is that it adds to the complexity of managing their electric grids. Under the laws of many states, utilities are required to follow net metering rules, which they argue fail to account for the added costs of grid maintenance, electrical infrastructure, administrative work, and special equipment to handle residential solar power systems. In essence, utilities argue that solar-power users are freeloading off paying electric customers.

ENERGY/GENERAL

[Hospital Electricity Use Not Going Down, Finds Survey](#)

[Energy Manager Today, Mar. 27] Grumman/Butkus Associates, a firm of energy efficiency consultants and engineers, has released the results of its [2014 Hospital Energy and Water Benchmarking Survey](#), focusing on healthcare facilities' resource usage trends and costs for calendar year 2013. Since the survey was initiated 20 years ago, hospitals' overall electricity use hasn't declined, the study finds. Electrical energy reduction measures such as lighting retrofits are being offset by the introduction of more electronic imaging equipment and fully digital recordkeeping. The average combined Btu/ft² for facilities in the survey (electricity plus gas/steam) was 248,456, at a cost of \$3.27/ft², compared with 235,731 Btu/ft² and \$3.09/ft² in the 2013 survey (2012 data). Harsh Midwestern winter weather patterns undoubtedly had an adverse effect on energy consumption for hospitals participating in the 2014 survey.

[Iran Backs Away from Key Detail in Nuclear Deal](#)

[New York Times, Mar. 29] LAUSANNE, Switzerland — With a negotiating deadline just two days away, Iranian officials on Sunday backed away from a critical element of a proposed nuclear agreement, saying they are no longer willing to ship their atomic fuel out of the country. For months, [Iran](#) tentatively agreed that it would send a large portion of its [stockpile of uranium to Russia](#), where it would not be accessible for use in any future weapons program. But on Sunday Iran's deputy foreign minister made a surprise comment to Iranian reporters, ruling out an agreement that involved giving up a stockpile that Iran has spent years and billions of

dollars to amass. "The export of stocks of enriched uranium is not in our program, and we do not intend sending them abroad," the official, Abbas Araqchi, told the Iranian media, according to Agence France-Presse. "There is no question of sending the Western officials confirmed that Iran was balking at shipping the fuel out, but insisted that there were other ways of dealing with the material. Chief among those options, they said, was blending it into a more diluted form. Depending on the technical details, that could make the process of enriching it for military use far more lengthy, or perhaps nearly impossible. Nonetheless, the revelation that Iran is now insisting on retaining the fuel could raise a potential obstacle at a critical time in the talks. And for critics of the emerging deal in Congress, in [Israel](#) and in Sunni Arab nations like [Saudi Arabia](#), the prospect of leaving large amounts of nuclear fuel in Iran, in any form, is bound to intensify their already substantial political opposition.

[LEED to Recognize Living Building Challenge Energy & Water Requirements](#)

[USGBC.org, Apr. 3] The U.S. Green Building Council announced today that it will now recognize energy and water requirements from the Living Building Challenge (the Challenge) green building system within the LEED green building program. "USGBC and the International Living Future Institute, developers of the Living Building Challenge, share a common commitment and goal to transform the way we design, build and operate our buildings," said Scot Horst, chief product officer, USGBC. "The Challenge plays an important role on the green building performance curve and is a complement to LEED." Added Horst, "The LEED steering committee approved this approach; in the world of rating systems there is a sense of competition between systems, and what we're saying is that what matters is that people are doing good environmental work. We want to focus on them and create harmonization between systems." This move means that projects achieving the energy and water requirements in Living Building Challenge will be considered as technically equivalent to LEED. Over the last several years, USGBC has made concerted efforts to streamline LEED requirements and better complement existing rating systems around the world. In 2012, USGBC announced that it will recognize energy credits from Building Research Establishment Environmental Assessment Method (BREEAM) International, the United Kingdom's green-building rating program, in applications for LEED certification.

[Report: Natural Gas System Methane Emissions Down Significantly in 20 Years](#)

[Fierce Energy, Apr. 1] A new study published in Environmental Science and Technology, conducted by Washington State University's Laboratory for Atmospheric Research, confirms methane emissions from local natural gas systems have significantly decreased in the past 20 years, even as the systems' mileage has increased. The study provides the most comprehensive set of direct emissions measurements from the distribution system, according to the University who worked in conjunction with Regents Professor Brian Lamb, the Environmental Defense Fund, major natural gas utilities, and engineering and environmental consulting firms.

[U.S. Economy Gained 126,000 Jobs in March, an Abrupt Slowdown in Hiring](#)

[New York Times, Apr. 3] The yearlong streak of robust monthly job creation was broken on Friday with the [Labor Department's report](#) that employers added just 126,000 workers in March, a marked slowdown in hiring that echoed earlier signs that sluggish business investment and punishing weather were exacting a toll on the economy. Analysts blamed the plunge in oil prices as well as the pall cast by a difficult winter across the Northeast and Midwest, a combination that put a crimp on spending in the energy patch and held back consumer spending and construction. Still, this new report presents only a limited snapshot, and many said they expected the economy to regain at least some of its momentum later this year.

INDUSTRIES AND TECHNOLOGIES

[Aerosol-Based Duct Sealing Reduces Energy Use](#)

[Energy Manager Today, Mar. 234] A new technology, called aeroseal, developed at Lawrence Berkeley National Laboratory with funding from the EPA and the US Department of Energy among others, provides a new way to seal leaky air ducts. JMD Corporation recently purchased the exclusive rights to the duct sealing technology and formed [Aeroseal](#), a company that will sell the duct sealing technology to US homeowners and businesses. Aeroseal works by sealing duct leaks from the inside of the duct system. Applied as an aerosol mist, the non-toxic spray travels throughout the interior of the ductwork attaching itself to the edge of the leaks, then bonding to other sealant particles until the hole is sealed. According to Lawrence

Berkeley National Laboratory studies, the process is 95 percent effective at sealing air duct leaks.

[Industrial Internet Consortium Launches First Grid-Focused Testbed](#)

[Smart Grid News, Mar. 26] The Industrial Internet Consortium has launched its first energy-focused testbed. The Communication and Control Testbed for Microgrid Applications is made up of Industrial Internet Consortium member organizations Real-Time Innovations (RTI), National Instruments, and Cisco, collaborating with power utilities CPS Energy, Duke Energy, and Southern California Edison (SCE), as well as the Smart Grid Interoperability Panel (SGIP). Grid operators manage a huge infrastructure of generation, transmission and distribution systems, and Consortium members believe microgrids could successfully address the communication, load, and generation challenges currently facing the grid. The goal of the Communication and Control Testbed is to introduce the flexibility of real-time analytics and control into the legacy grid process -- which relies on a central-station architecture not designed to interconnect distributed and renewable power sources such as roof-top solar and wind turbines -- to increase efficiencies and ensure that power is generated more accurately and reliably to match demand. Currently, the grid must over-generate power to compensate for rapid variation in power generation or demands. As a result, much of the benefit of renewable energy sources can be lost. Efficiently integrating variable and distributed generation requires architectural innovation.

[These States Are the Early Leaders in the US Energy Storage Market](#)

A tight cluster of states provides incentives and markets for storage.

[Green Tech Media, Mar. 25] Energy storage is a small market experiencing fierce growth. The U.S. installed 61.9 megawatts of energy storage in 2014, and GTM Research is forecasting 220 megawatts to be installed in 2015. But, as with the U.S. solar industry, energy storage projects are clustered in states with incentives or in regions where markets are able to place a value on storage. So it's no surprise that California, Hawaii, and New York have assumed early leadership in energy storage by virtue of their unique incentives, mandates and markets, according to the inaugural GTM Research and Energy Storage Association [U.S. Energy Storage Monitor](#) report. Energy storage in front of the meter - California's PUC has mandated 1.3 gigawatts of storage by 2020. Southern California Edison, as part of its local capacity RFO, is adding 50 megawatts of battery-centered "hybrid electric building" projects from startup Advanced Microgrid Solutions. Another 25.6 megawatts of thermal energy storage will come from Ice Energy. The biggest winner was AES Energy Storage, which will build a 100-megawatt battery system in SCE's West Los Angeles Basin region. New York: Con Edison and PSEG on Long Island are procuring storage for T&D deferral. Arizona and Hawaii are considering large energy storage projects. PJM: Seeing consistent deployments of energy storage for ancillary services.

[Wind and Solar Industries Release Handbook to Help States use Renewables to Comply with EPA Plan](#)

[T&D World Magazine, Apr. 1] The American Wind Energy Association and Solar Energy Industries Association have jointly [published a handbook for states](#) detailing how to incorporate renewable energy into state plans to comply with the U.S. Environmental Protection Agency's Clean Power Plan, the proposed regulation to cut carbon emissions from existing power plants. "Wind energy already cuts power sector carbon emissions by more than five percent a year, while growing U.S. manufacturing and generating tens of billions of dollars of investment, including in economically distressed rural areas," said AWEA CEO Tom Kiernan. "This new handbook provides a helping hand to states, allowing them to capitalize on the economic and environmental benefits of renewable energy while diversifying their energy mix and lowering costs for consumers."

["Wind Rush" Underway Across Much of America As New Turbines Access Higher Wind Speeds, Opening New Areas For Development](#)

[American Wind Energy Association, Mar. 31] Washington, D.C. – Advanced wind turbines are accessing faster, steadier winds at higher altitudes so they can generate more electricity, creating a modern-day "wind rush" as new areas in the Great Lakes states and the Southeastern U.S. become economical sites to develop more wind energy. "Wind turbine technology has advanced in just a few decades from the Model T era to more like that of a Tesla," said AWEA CEO Tom Kiernan. "Taller towers, longer blades and improved electronics to operate and maintain the turbines are all part of this revolution." Modern wind turbines require a wind speed of only about 8 miles per hour (5 meters per second) to start generating

utility-scale quantities of electricity. Sites with comparatively lower average wind speeds can now be considered for commercial turbines for the first time. “The Great Lakes region is an early beneficiary of this,” said Emily Williams, Deputy Director of Industry Data and Analysis. “In states like Michigan we’re absolutely seeing a wind rush.” With continued technology advancements, states that currently have no commercial wind turbines at all, primarily in the Southeast, will see development opportunities open up in the coming years.

LEGISLATION AND REGULATION

[Energy Efficiency Bill Passes Senate in Early Morning](#)

[The Hill, Mar. 27] Sens. Rob Portman (R-Ohio) and Jeanne Shaheen (D-N.H.) squeaked in a vote early Friday morning on their energy efficiency bill after the Senate ended an hours-long marathon on the budget. The Energy Efficiency Improvement Act was passed by voice vote, with the two senators the only two on the floor after 4 a.m. Friday. The legislation focuses on improving energy efficiency in buildings, while also exempting thermal storage water heaters from upcoming energy standards. The senators' move follows a years-long push to get energy legislation passed, with a more expansive bill introduced earlier this month, called the Energy Savings and Industrial Competitiveness Act. The water heater provision is in both bills. Previous energy bills from the bipartisan duo have received broad support but been bogged down in political fights that prevented passage.

[Government Agencies Continue Partnership To Advance Hydropower Technology](#)

[Power Magazine, Mar. 25] The U.S. Department of Energy, U.S. Department of the Interior, and the U.S. Department of the Army for Civil Works announced on March 24 that the three agencies would continue to collaborate on hydropower development for at least another five years. The agreement extends a memorandum of understanding (MOU) the three agencies [originally signed in 2010](#), renewing their commitment to cooperate on an action plan for hydropower. The original agreement was successful in spurring the completion of 10 non-federal projects at Bureau of Reclamation facilities—adding 33 MW of capacity—with 40 additional projects currently in development. The Army Corps of Engineers also completed three non-federal projects, adding 19.4 MW, with 32 more projects in some stage of development.

[Industry-backed Best Practices Guides Aim to Lower Financing Costs for Solar Energy Systems](#)

[NREL, Mar. 31] The Solar Access to Public Capital (SAPC) working group has released new best practices guidelines for solar photovoltaic (PV) systems, with the goal of increasing investor confidence in the long-term viability of PV systems. The guides - [SAPC Best Practices in PV System Installation](#) and [SAPC Best Practices in PV Operations and Maintenance](#) - were developed by SAPC subcommittees, each involving dozens of solar and finance entities. The [Solar Access to Public Capital \(SAPC\)](#) working group, convened by the Energy Department's National Renewable Energy Laboratory, is comprised of 425 members of the PV market chain, including development, legal, financial, accounting, engineering, and other communities engaged in solar asset deployment, finance and operation.

[Mexico Announces “Landmark” Greenhouse Gas Target — A Cut Of 22 Percent By 2030](#)

[Washington Post, Mar. 27] Mexico vowed Friday to slash its output of greenhouse gases and make 2026 its peak emissions year, an ambitious goal and the first one submitted by an emerging market country in the runup to the global climate conference in Paris in December. Mexico said it would reduce its emissions of greenhouse gases by 22 percent and its emissions of black carbon or soot by 51 percent by the year 2030. Hitting that target will mean sharply raising vehicle fuel efficiency to bring standards in line with those in the United States and adopting appliance standards. Mexico also set goals for increasing the share of renewable and nuclear energy in its electric power sector.

[New Guidelines for Training Building Professionals](#)

Program will streamline certification processes, code familiarity

[Buildings.com website, Mar. 11] As part of the Obama Administration's Better Buildings Initiative, the DOE and the National Institute for Building Sciences has released the Better Buildings Workforce Guidelines to help aid the development and implementation of training and certification programs for commercial building employees. The initiative, which looks to make buildings 20% more energy efficient in the next ten years, includes the development of a skilled clean energy workforce as one of its main goals. The new guidelines will help to not only

improve building efficiency but also strengthen the skills of employees trained under the new programs.

[Obama Plugs Program To Train Veterans for Solar Industry Jobs](#)

[Reuters, Apr. 3] President Barack Obama on Friday unveiled an expansion of U.S. government efforts to train military veterans for jobs in the solar power industry during a visit to Utah. The administration announced a new goal of training 75,000 people to enter the solar work force by 2020. That is an increase from a goal announced last year of training 50,000 workers by the same deadline. Many of those workers would be veterans, administration officials said. The Department of Defense plans to have "Solar Ready Vets" programs at 10 bases across the country to train military members who are returning to civilian life for solar jobs.

[White House Reviews Truck Efficiency Rules](#)

[The Hill, Mar. 30] The White House Monday started its final review of a proposal to improve the efficiency of large trucks and reduce their greenhouse gas emissions. The proposal, which the Obama administration started writing last year, would be the second round of efficiency rules for medium- and heavy-duty vehicles, including trucks and buses. Trucks account for 4 percent of vehicles on the road, but 20 percent of the transportation sector's carbon dioxide emissions. Environmental Protection Agency (EPA) chief Gina McCarthy confirmed Monday that the White House Office of Management and Budget (OMB) received the standards and started its review. "We've already done one heavy-duty rule, and that got, I think, the ball rolling," McCarthy said Monday at an event hosted by *Politico*, referring to the first round of efficiency rules in 2011 for heavy vehicles.

WESTERN POWER

[California Gov. Brown Orders State's First-Ever Mandatory Water Reductions in Wake of Record Low Snowpack](#)

[Western Governors' Association, Apr. 1] California officials on Wednesday announced the state's lowest snowpack ever recorded, with levels across the entire Sierra Nevada range at a historic low of 6 percent of the long-term average. The news about snowpack is only marginally better across the West. Mountain snowpack is the primary supplier of water for agricultural, industrial and domestic uses throughout the region. Without this frozen insurance to get the state through the projected dry heat of the coming summer, California Gov. Jerry Brown has announced the first-ever statewide mandatory water reductions.

[PG&E Leads U.S. As Largest Solar Utility with More Than 150,000 Customer PV Installations](#)

[SolarServer.com, Mar. 26] Pacific Gas & Electric Company (PG&E, San Francisco, CA, US) on March 25th, 2015 announced that it has reached a significant milestone by connecting the 150,000th solar customer to its electric grid. In addition, during 2014, the utility connected more rooftop solar photovoltaic (PV) customers to its grid than any other year in its history. More than 45,000 new solar customers were added in 2014 alone. During this time period, PG&E added approximately 326 MW of installed solar PV power – enough to power more than 70,000 homes.

[SolarCity Opens ABQ Operations Center](#)

[Energybiz.com, Apr. 3] Albuquerque Journal, N.M. – SolarCity, the nation's biggest installer of solar photovoltaic systems, inaugurated a new 18,000-square-foot operations center on Albuquerque's West Side Thursday morning, offering a hefty boost to New Mexico's rapidly expanding solar industry. The company, a publicly traded firm that Tesla Motors CEO Elon Musk co-founded in 2006, announced its arrival in New Mexico in early March, with plans to immediately serve the Albuquerque, Santa Fe and Las Cruces markets, followed by expansion to more areas around the state. The company has already hired 50 people, and it has 30 more positions now available for a range of jobs, including sales, installations, electrical engineering and more, said Nathan Jarrell, SolarCity's regional vice president for New Mexico.

[Western Governors Tout Sage Grouse Conservation Efforts To Avoid Endangered Species Listing](#)

[Fox News, Apr. 2] Boise, Idaho – A group of Western-state governors has released a report on voluntary efforts in 11 states to conserve the habitat of sage grouse as part of an effort to avoid a federal listing of the bird under the Endangered Species Act. The 32-page "2014 Sage-Grouse Inventory" released Thursday by the Western Governors' Association identifies

conservation work during the year and is accompanied by a 101-page appendix listing efforts since 2011. The U.S. Fish and Wildlife Service has a deadline of Sept. 30 to decide whether to propose the greater sage grouse as needing protections that could limit ranching as well as oil and gas drilling.

ARIZONA STATE INCENTIVES/POLICIES

ARIZONA COMMERCE AUTHORITY (ACA)

- **INCENTIVES**

Arizona has lowered taxes, streamlined regulations, and established a suite of incentives to support corporate growth and expansion. The Arizona Competitiveness Package, groundbreaking legislation adopted in 2011, makes it easier for existing Arizona companies to prosper and establishes Arizona as one of the most desirable places for expanding companies to do business. Give your company a competitive edge by utilizing Arizona's incentives.

- Job Training
- Quality Jobs
- Qualified Facility
- Computer Data Center Program
- Research & Development
- Foreign Trade Zone
- Military Reuse Zone
- Angel Investment
- Renewable Energy Tax Incentive
- Healthy Forest
- Sales Tax Exemption for Machinery and Equipment
- Lease Excise
- Additional Depreciation
- Work Opportunity
- Commercial/Industrial Solar
- SBIR/STTR
- Private Activity Bonds
- QECB's

- **(ACA) PROGRAMS**

- **DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY (DSIRE)**

- Arizona Incentives/Policies
- Federal Incentives/Policies
- Solar Policy News

The DSIRE website provides summaries of current solar policy developments and an archive of past solar policy developments. Current solar news appears below the news archive, which is searchable by several criteria.

GRANTS

Students – Geothermal Resources Council (GRC) – The [GRC](#) presents news and information for students in the global geothermal community. There are some great opportunities for student scholarships in geothermal. For more information, visit the link below. You will find "Scholarships" half way down the page.

Website: <http://www.geothermal.org/students.html>

The following solicitations are now available:

(Click on title to view solicitation)

Transforming Trash Into Resources






The city of Phoenix is issuing a Call for Innovators (CFI) and a Request for Proposals (RFP) for entrepreneurs and innovators with market-ready and emerging technologies or manufacturing processes that transform trash into resources. The CFI and RFP processes will be held from March 9 to April 14. To learn more about these opportunities, visit:

CFI: phoenix.gov/solicitations/277

- [Planning Program and Local Technical Assistance Program \(EDAPLANNING2012\)](#) – Applications Accepted on a Continuous Basis
- [National Facilities Program \(PD-05-1743\)](#) - Applications Accepted on a Continuous Basis
- [Environmental Quality Incentive Program](#) – Applications Accepted on a Continuous Basis
- [American Indian Air Quality Training Program \(EPA-OAR-IO-15-03\)](#) – Applications
- [Agriculture and Food Research Initiative - Water for Agriculture Challenge Area \(USDA-NIFA-AFRI-004918\)](#) – Letters of Intent due April 9, 2015
- **DUE SOON!** [Strengthening the Public's and/or K-12 Students' Environmental Literacy for Community Resilience to Extreme Weather Events and Environmental Changes \(NOAA-SEC-OED-2015-2004408\)](#) – Applications due April 13, 2015
- **DUE SOON!** [Scholarship and Fellowship Education \(NRC-HQ-84-15-FOA-0001\)](#) – Applications due April 17, 2015
- **DUE SOON!** [U.S. Wind Manufacturing: Larger Blades to Access Greater Wind Resources and Lower Costs \(DE-FOA-0001214\)](#) – Concept Papers due April 17, 2015
- [Faculty Development Grant \(NRC-HQ-84-15-FOA-0002\)](#) – Applications due April 20, 2015
- [Trade School and Community College Scholarship Grant \(NRC-HQ-84-15-FOA-0003\)](#) – Applications due April 20, 2015
- [Near Zero Power RF and Sensor Operations \(DARPA-BAA-15-14\)](#) – Applications due April 23, 2015
- [Solar Powering America by Recognizing Communities \(SPARC\)](#)
Funding Number: DE-FOA-0001241 – Concept Paper Submission Deadline: 3/5/2015 5:00 PM ET; Full Application Submission Deadline: 4/27/2015 5:00 PM ET; Webinar Information: Date: February 18, 2015 Time: 4:00pm Eastern
Register here: <https://attendee.gotowebinar.com/register/3005409845756656642>
- [Market Development Cooperator Program 2015 \(ITA-INA-OPCM-2015-2004375\)](#) – Applications due April 27, 2015
- [Desalination and Water Purification Research and Development \(DWPR\) \(R15AS00019\)](#) – Application Due Date: 4/27/2015
- [Desalination and Water Purification Research and Development \(DWPR\) Pilot \(R15AS00021\)](#) – Application Due Date: 4/27/2015
- [American Apprenticeship Initiative \(FOA-ETA-15-02\)](#) – Application Due Date: 4/30/2015
- [The Resilient Electricity Delivery Infrastructure \(REDI\) Initiative \(DE-FOA-0001219\)](#) – Application Due Date: 5/04/2014
- [2015 Federal-State Marketing Improvement Program \(USDA-AMS-FSMIP-2015\)](#) – Applications due May 14, 2015

- [Recuperator Technology Development and Assessment for Supercritical Carbon Dioxide \(SCO2\) Based Power Cycles](#) – Applications due May 15, 2015
- [Flexible Hybrid Electronics Manufacturing Innovation Institute Grant \(BAA-RQKM-2015-0014\)](#) – Applications due 5/29/2015
- [Economic Development Assistance Programs \(EDAP2015\)](#) – Applications due June 15, 2015
- [Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring Grant \(NSF 15-551\)](#) – Applications due June 19, 2015
- [Land and Water Conservation Fund State and Local Assistance Program](#) – Application Due Date: 08/11/2015
- [Decision, Risk and Management Sciences \(PD-98-1321\)](#) - Applications due August 18, 2015
- [Advanced Frontiers in Renewable Hydrogen Fuel Production via Solar Water Splitting Technologies](#) – Letter of Intent due 10/7/2015
- [Thermal Transport Processed \(PD-14-1406\)](#) – Application due 10/20/2015
- [Energy for Sustainability \(PD-14-7644\)](#) – Applications due October 20, 2015
- [Biotechnology, Biochemical, and Biomass Engineering \(PD-14-1491\)](#) - Applications due October 20, 2015
- [Catalysis and Biocatalysis \(PD-14-401\)](#) - Applications due October 20, 2015
- [Energy, Power, and Adaptive Systems \(PD-13-7607\)](#) –Applications due November 2, 2015
- [Landscape Design for Sustainable Bioenergy Systems \(DE-FOA-0001179\)](#) – Concept Paper due 11/21/2015
- [Repowering Assistance Program](#) – Ongoing
- [Rural Business Enterprise Grant](#) – Ongoing
- [Rural Business Opportunity Grants](#) – Ongoing
- [Rural Energy for America Program](#)
- [Sunshot Catalyst Prize \(DE-FOA-0001126\)](#) - Applications Accepted on a Continuous Basis - The U.S. Department of Energy SunShot Catalyst is an open innovation program that allows the public to rapidly create and develop products and solutions that address near-term challenges in the U.S. solar marketplace through prize challenges.
- [Sustainable Agriculture Research and Education Grants](#) - Ongoing
- [Renewable Energy RFP's - Solicitations for Renewable Energy Generation, Renewable Energy Certificates, and Green Power](#) – Various Deadlines
- [U.S. Dept. of Agriculture - Rural Development Grant Assistance](#)
- [Green Refinance Plus](#) – Ongoing
- [National Science Foundation Funding Opportunities](#)

FEDERAL RESOURCES

-  [Guide to Federal Financing for Energy Efficiency and Clean Energy Deployment](#)
-  [Grants.Gov](#)
-  [FedConnect](#)
-  [Funding Opportunity Exchange](#)
-  [Renewable Energy Request for Proposals](#) - Proposal due Dates Vary